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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,808	05/28/2004	Serafino Bueti	BUR920040017US1	3807
42640	7590	11/15/2007		
DILLON & YUDELL LLP 8911 NORTH CAPITAL OF TEXAS HWY SUITE 2110 AUSTIN, TX 78759			EXAMINER LAM, KENNETH T	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 11/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/709,808

Applicant(s)

BUETI ET AL.

Examiner

Kenneth Lam

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/20/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-4, 11-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) in view of Morishita (US 6,184,744 B1).

Re Claims 1 and 11, McClennon discloses a method and it's apparatus for managing power consumptions (adaptive power management in a modem, column 1, lines 6-14) of a sending driver (line driver 48, Figure 1) and a receiving driver (in block

60, Figure 1), wherein said sending driver sends data received from a sender (DSL Transceiver 20, Figure 3) to said receiving driver via a transmission line (asymmetric digital subscriber line (ADSL), column 1, lines 16-30), said method comprising:

coupling a sensor (Data Traffic Predictor 120, Figure 3) to said sender (DSL Transceiver 20, figure 3) and said sending driver (line driver 48, Figure 1); in response to an amount of data that needed to be sent by said sender (column 2, lines 39-61), adjusting a power level by said sensor to said sending driver accordingly (column 4, line 43-65, the modem includes a full on power mode, a zero power mode and a quiescent power mode); and transmitting data/ from said sender by said sending driver on said transmission line to said receiving driver according to said adjusted supply voltage level (the power mode of the modem is then determined based on the determined periodicity of the incoming data traffic, column 4, lines 8-18).

McClennon teaches that the modem includes a full on power mode, a zero power mode and a quiescent power mode (column 4, line 43-65) except adjusting a supply voltage level by said sensor to said sending driver accordingly. It is obvious to one skilled in the art at the time the invention was made that the power consumption is proportional to the square of the voltage level, according to Morishita (column 1 lines 17-41), to improve the power regulation and to provide a steady power output.

Re Claims 2 and 12, the combined teaching discloses the method of Claim 1 and it's apparatus of Claim 11, wherein McClennon teaches said method further includes adjusting a transmission frequency (data rate) by said sensor to said sending driver

according to said amount of data needed to be sent by said sender (where the quiescent power mode is selected, the method can also include a further step of determining a minimum data rate to which to operate the modem, column 4, lines 25-42).

Re Claims 3 and 13, the combined teaching discloses the method of Claim 2 and it's apparatus of Claim 12, wherein McClennon teaches said method further includes transmitting data from said sender by said sending driver on said transmission line to said receiving driver according to said adjusted transmission frequency (Transceiver 20 in Figure 3 includes sending and receiving driver, column 4 line).

Re Claims 4 and 14, the combined teaching discloses the method of Claim 1 and it's apparatus of Claim 11, wherein McClennon teaches said sensor includes a data level detector (traffic Monitor 122, figure 4, monitors data arriving at modem 20 to determine a data arrival rate, column 7, lines 50-63).

Re Claims 7 and 17, the combined teaching discloses the method of Claim 1, wherein McClennon teaches said method further includes coupling controller (Power Mode Controller 126, Figure 4) to said receiving driver (DSL Transceiver 20, Figure 3).

Re Claims 8 and 18, the combined teaching discloses the method of Claim 7 and it's apparatus of Claim 17, wherein McClennon teaches said method further includes

adjusting a power level by said controller to said receiving driver according to the power level of data on said transmission line (the power mode of the modem is then determined based on the determined periodicity of the incoming data traffic, column 4, line 16. It is an inherent property that the power consumption is proportional to the square of the voltage level).

McClennon teaches that the modem includes a full on power mode, a zero power mode and a quiescent power mode (column 4, line 43-65) except adjusting a supply voltage level by said sensor to said sending driver accordingly. It is obvious to one skilled in the art at the time the invention was made that the power consumption is proportional to the square of the voltage level, according to Morishita (column 1 lines 17-41), to improve the power regulation and to provide a steady power output.

5. Claims 5-6, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) and Morishita (US 6,184,744 B1) as applied to claim 1 and claim 11 above, and further in view of Hanami et al. (Hanami herein after) (US 2003/0133504 A1).

Re Claims 5 and 15, the combined teaching discloses the method of Claim 1 and it's apparatus of Claim 11, except wherein said sensor includes a programmable voltage regulator. However, Hanami teaches a voltage regulator in an integrated circuit capable of reducing power consumption according to data to be processed ([0174]-[0177]).

Re Claims 6 and 16, the combined teaching discloses the method of Claim 1 and it's apparatus of Claim 11, except wherein said sensor includes a clock frequency

selector. However, Hanami teaches a clock selector in an integrated circuit capable of reducing power consumption according to data to be processed ([0103]-[0104]).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to included a voltage regulator as taught by Hanami in the power consumption management system taught by McClennon and Morishita to further improve the level of controllability.

6. Claims 10, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) and Morishita (US 6,184,744 B1) as applied to claim 7 and claim 17 above, and further in view of Hanami et al. (Hanami herein after) (US 2003/0133504 A1).

Re Claims 10 and 20, the combined teaching discloses the method of Claim 7 and it's apparatus of Claim 17, except wherein said controller includes a programmable voltage regulator. However, Hanami teaches a voltage regulator in an integrated circuit capable of reducing power consumption according to data to be processed ([0174]-[0177]).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to included a voltage regulator as taught by Hanami in the power consumption management system taught by McClennon and Morishita to further improve the level of controllability.

7. Claims 10, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) and Morishita (US 6,184,744 B1) as applied to claim 7 and claim 17 above, and further in view of Borla (US 6,433,730 B1).

Re Claims 9 and 19, the combined teaching discloses the method of Claim 7 and it's apparatus of Claim 17, except wherein said controller includes a pulse amplitude detector. However, Borla teaches using pulse detection for measuring arrival, amplitude, pulse width and amplitude to detect received signal (column 1 line 19 - column 2 line 9).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to incorporate the signal detection method and apparatus as taught by Borla and the frequency detection in the power consumption management system taught by McClennon and Morishita to further improve the accuracy of frequency detection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Theodore Buot, US 7,047,018
- Daniel M. Dreps et al, US PG PUB 2003/0086501
- Tajana Simunic et al, "Managing Power Consumption in Networks on Chips", IEEE Transactions on very large scale integration (VLSI) systems, VL. 12, No. 1, January 2004

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Lam whose telephone number is (571) 270-1862. The examiner can normally be reached on Mon - Thu 7:30 am - 5:00 pm EST ALT Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KENNETH LAM
11/10/2007



SHUWANG LIU
SUPERVISORY PATENT EXAMINER